parallaxes from double stars for which the relative motion is known. Again, although the linear speed differs considerably from one star to another, the proper motions of stars can be considered as an index to the distance—a much better index than the apparent brightness.

In these and other indirect ways our knowledge of stellar distances is being rapidly advanced. It must be remembered that it is all ultimately based on measured or trigonometric parallaxes. The larger trigonometric parallaxes can be applied directly to the individual stars concerned, but for the smaller parallaxes the discussions must be of a statistical nature, as the errors of observation are too great. The indirect methods can, however, be pushed to stars at very great distances if only they appear bright enough for the necessary observations to be made.

Obituary.

JOHN ROBERT PANNELL.

JOHN ROBERT PANNELL, who was killed in the disaster to the airship R38 while making observations on behalf of the National Physical Laboratory, was the only surviving child of Mr. and Mrs. Pannell, of Nutley. He was born in 1885. A delicate childhood, which none would have suspected from his adult physique, interfered greatly with his education, but after courses at the Northampton Institute and some engineering works experience he joined the National Physical Laboratory in 1906 as a student assistant.

His best-known work is that carried out in conjunction with Mr. Stanton on dynamical similarity in the flow of liquids in pipes, which has become classical as the most complete demonstration of that principle in its important applications to hydrodynamics. With Mr. Stanton he also investigated with great elaboration the strength of welded joints; but most of his work is to be found in reports to the Advisory Committee for Aeronautics covering almost the whole range of experimental inquiry in aerodynamics. When problems of airship construction became prominent in 1916 he took part in most of the model measurements on resistance and the efficiency of controls; and when, again, after the war, it became possible to compare the results of model and full-scale tests, Pannell took charge of the latter and was constantly making observations on airships in flight.

In a science so little amenable to general theory the ability to make long and tedious series of routine measurements without allowing familiarity to breed carelessness is of special importance. This ability Pannell possessed in the highest degree. He had that genial serenity and evenness of temper often associated with one of his gigantic stature; neither the perversity of apparatus nor the impatience of petulant colleagues could make him relax for a moment the precautions that are the first necessity of such work. If the human tragedy of the R38 is partially compensated by a gain to science, that gain will be largely due to merits in Pannell's work which are too often eclipsed by more brilliant but not more useful achievements.

In private life the most lovable of men, he radiated kindness and good temper. He was of tireless physical energy, and his war-time leisure, devoted to a small farm, shamed the full-time occupation of many men. He leaves a widow, the true partner of all his labours, with whom all will feel sympathy in the exact measure of their acquaintance. N. R. C.

WE learn, with regret, of the death on September 10, from drowning near Ottawa, of Mr. F. W. L. SLADEN, author of "The Humble-bee: Its Life-history and How to Domesticate It." Mr. Sladen was forty-five years of age.

THE death of Mr. JOHN PEARCE ROE took place on September 2. Mr. Roe was born in 1852, and was the chairman and managing director of Ropeways, Ltd., of London. He carried out a large amount of work in connection with the transporting of materials by means of aerial ropeways.

Notes.

THE *Chemical Age* announces that Sir William Pope has been elected an honorary fellow of the Canadian Institute of Chemistry.

IT is announced that the annual meeting for 1922 of the British Medical Association will be held at Glasgow on July 21–29. The authorities of Glasgow University have given the association permission to use the University buildings, and offers of assistance should be addressed to Dr. G. A. Allen and Dr. J. Russel at the University.

WE learn from the *Lancet* of September 17 that the Health Committee of the League of Nations is constituted as follows:—Dr. Léon Bernard, professor of hygiene in the University of Paris; Dr. G. S. Buchanan, senior medical officer of the British Ministry of Health; Prof. A. Calmette, director of the Pasteur Institute in Paris; Dr. Carozzi, medical director of the International Labour Bureau; Dr. Henri Carrière, director-general of the Swiss Public Health Service; Sir Havelock Charles, president of the Medical Board for India; Dr. Chodzko, Minister of Health for Poland; Dr. Lutrario, director-general of the Italian Public Health Service; Dr. Th. Madsen, director of the State Institute of Serotherapy at Copenhagen; Prof. Miyajima, of the Kitasato Institute for Infectious Diseases, Tokyo; Dr. Pulido, president of the Spanish Royal Council of Public Health;

Mr. O. Velghe, director-general of the Belgian Public Health Service; and Prof. C.-E. A. Winslow, director of the League of Red Cross Societies. Dr. Rajchman, of Warsaw, has been appointed permanent medical director.

THE following lectures have been arranged for delivery at the Royal College of Physicians:—The Mitchell lecture, on "The Relations of Tuberculosis to General Conditions of the Body and Diseases other than Tuberculosis," by Dr. F. Parkes Weber, on November 1; The Bradshaw lecture, on "Subtropical Esculents," by Dr. M. Grabham, on November 3; and the Fitz-Patrick lecture, on "Hippocrates in Relation to the Philosophy of his Time," by Dr. R. O. Moon, on November 8 and 10. The time in each case will be 5 o'clock.

THE autumn meeting of the Refractory Materials Section of the Ceramic Society is to be held at the Institution of Mechanical Engineers on Thursday and Friday, October 6 and 7, when the following papers will be read:—"Refractory Materials of the London Basin," H. Dewey; "The Marlow Gas-fired Tunnel Oven," J. H. Marlow; "A New Type of Tunnel Kiln, Oil-fired, with many Novel Features," P. J. Woolf; "Aluminothermic Corundum as Refractory Materials," Dr. A. Granger; and "The Reversible Thermal Expansion of Silica," Prof. J. W. Cobb and H. S. Houldsworth. There will also be a discussion on gas-firing.

THE secretary of the Royal Geographical Society has received a cablegram from Mr. J. M. Wordie, of St. John's College, Cambridge, announcing that the expedition of Mr. Wordie and Mr. Chaworth-Musters, of Caius College, to the Island of Jan Mayen this summer has been very successful, and that the first ascent of Beerenberg, the very summit of the island, has been made.

ACCORDING to the *Morning Post*, an expedition to Sumatra, under the leadership of Mr. C. Lockhart Cottle, is to sail towards the end of the year for the purpose of making zoological and museum collections. A special effort will be made to obtain particulars of the life-history of the orang.

A JOINT research committee has been formed by the National Benzole Association and the University of Leeds which will take over the direction of research in the extraction and utilisation of benzole and similar products in this country. The National Benzole Association is concerned with the production of crude and refined benzole, and, according to its constitution, one of its objects is to carry on, assist, and promote investigation and research. The term "benzole" is used in its widest sense, so the field of activity of the association embraces carbonisation and gasification processes, by-product coke-oven plants, gasworks, etc., but at the present time it is concerned mostly with the promotion of home production of light oil and motor spirit. Success in this direction is thought to rest largely with chemical investigations into the possibilities of the various processes concerned, and it is with this object that co-operation with the University is sought. The joint committee which has been formed consists of equal numbers of representatives from the University and the association, and the initial membership is as follows:—Prof. J. W. Cobb, Prof. J. B. Cohen, Prof. A. G. Perkin, Prof. Granville Poole, Prof. A. Smithells, Mr. W. G. Adam, Dr. T. Howard Butler, Mr. S. Henshaw, Mr. S. A. Sadler, and Dr. E. W. Smith. Research work undertaken will be carried out under the supervision of Prof. Cobb, and reports embodying the results will be published at intervals.

THE annual exhibition of the Royal Photographic Society was opened on Monday last at 35 Russell Square, W.C.1, and will remain open until October 29. Admission is free. The greatest novelty from a scientific point of view is a portrait of the Postmaster-General by M. Louis Lumiere's new method of showing the solidity of solid objects by means entirely different from the ordinary stereoscopic method. Separate photographs are taken of, say, six different planes of the object, and the camera is so constructed that while the relative positions of the object, the lens, and the plate remain fixed so far as regards the plane being photographed, a movement of the plate and the lens renders unsharp the images in the other planes. Thin transparencies are then made from the negatives, and these are placed in properly spaced grooves one behind the other. A diffused light is arranged behind, and the whole is viewed, normally, from a distance of a yard or so. The result shown is strikingly good so far as the face is concerned, the definition being a little soft. The edge of the collar, where there is great contrast, shows a double or multiple image. Mr. Howard M. Edmunds illustrates a method of photo-sculpture. An image of an accurately drawn spiral line is projected by means of a lantern on to the face of the subject while a photograph is taken of him. A high-speed drill does the carving, and it is guided by "sighting a microscope attached to it on to" the special portrait described. A large series of photographs of spiders, butterflies, moths, etc., taken by flashlight without regard to the time of day or night except as the character of the subject renders necessary, is shown by Mr. Oswald James Wilkinson. The results are excellent, most of the pictures being life-size. There are many radiographs of great interest, astronomical photographs from Greenwich, two photographs of a waterspout by Mr. J. W. Knight, and innumerable other examples of good scientific work, besides the pictorial section. The society's museum, which has lately been enriched by a large quantity of apparatus used by Fox Talbot, is well worth a visit on its own account.

DURING the meeting of the British Association at Edinburgh Prof. W. D. Halliburton delivered a lecture on giants. He said that the popular conception of a giant was that he was a powerful, magnificent man, and very often used that power to the detriment of the races of mankind. As a matter of fact, a giant was a feeble and usually short-lived person, and destitute of the features associated with masculinity. It was now established that certain organs, such as the thyroid gland and the pituitary body at the base of the brain, had vast potentialities and great value. Giganticism was due to the over-activity of the pituitary body from birth, or sometimes before it; but it occasionally happened that this over-activity came into play after the increase of height was no longer possible, and this was evidenced in an overgrowth of the extremities, which was technically called acro-megaly. It was very striking that portions of a man's brain could be removed, as was done in the recent war, but this tiny thyroid gland was of prime importance; its entire removal was followed by death within a very short time, and its over-activity or under-activity determined whether men were big or small.

AT the Edinburgh meeting of the British Association Sir W. Ridgeway extended to totemism the theory of ancestral worship which he has applied, in his "Origin of Tragedy," to the investigation of the drama. A prominent part in its development has been played by transmigration, as in the case of the ancient Egyptians. Some Indonesians venerate the crocodile as a beneficent being, and look forward to becoming crocodiles after death, while tribes in Sumatra venerate tigers, supposing them to be their ancestors. Thus the reverence for certain trees, animals, etc., depends on the primary belief in the immortality of the soul. There can be no doubt, as some authorities stated in the course of the discussion which followed the reading of Sir W. Ridgeway's paper, that totemism is often found in connection with the cult of ancestors. But the difficulty remains that transmigration or the immortality of the soul does not seem to be one of the earliest and fundamental beliefs that arose in the human mind, and that totemism displays itself in many parts of the world as a complex form of belief, the varieties of which cannot easily be explained by any single theory of its origin.

IN the September issue of *Man* Messrs. Buxton and Hort give an interesting account of the pottery industry of Malta, the facts having been collected during the visit of the Oxford Anthropological Expedition. Two methods, the old and the new, are in use. In the former method we have a baked clay support holding a wooden disc set spinning by the hand in a clockwise direction—a method occasionally used for making ollas, or large water-pots, but now falling into disuse. In the new method an iron spindle, with the point in the native rock-floor, is used, the lower disc being turned anti-clockwise with the foot, and the clay worked on the upper turn-table. This method has been in use only for about ten years, and one woman did not know how to work the modern wheel.

IN the current issue (vol. 22, part 2) of the Records of the Indian Museum two entomological discoveries of unusual importance are put on record. The first is that of a dragon-fly of the genus Epiophlebia in the Himalayas. This genus, which appears to combine the characters of the Zygoptera and the Asisoptera, is an exceedingly archaic form, and has hitherto been known from a single Japanese species. A larva sufficiently advanced in development to be identified with certainty was found in a small collection from the Darjeeling district by Dr. F. F. Laidlaw, who, recognising its importance, has persuaded Dr. R. J. Tillyard to describe it in detail. The larva of this remarkable genus was hitherto unknown, and the extension of the geographical range from Japan to the Himalayas is a matter of great interest. The second discovery is that of a species of the termitophilous hemipterous genus Termitaphis on the east coast of India. The genus consists of curious flattened, wingless insects superficially resembling Coccidæ or Aphidæ, but conforming in structure to the Heteroptera. Species have hitherto been found in the warmer parts of North America, in South America, Australia, and West Africa, but not in the Oriental region. Prof. F. Silvestri, who describes the Indian form from a nest of *Coptotermes Heimi,* regards the genus as representing a distinct family, which he calls Termitocoridæ.

WE have received the General Report of the Survey of India for the year 1919–20. Field-work still suffered from a shortage of officers, but this difficulty was being overcome. Topographical surveys during the year covered 30,464 square miles, including large areas in Upper Burma and Tenasserim. Among the new sheets published were 104 1-in. sheets, 39 ½-in. sheets, and 8 "degree" sheets. Two new sheets of the million map were produced, and practically the whole of India, Afghanistan, Persia, and parts of Burma are now published on this scale. No additions were made to the two-million series. The report includes indices to the maps of various scales.

THREE papers in the Records of the Geological Survey of India (vol. 53, part 1, 1921) bear on the development of minerals of economic interest, but are in no case of a very hopeful nature. Dr. A. M. Heron describes lodes of antimonite 20 ft. wide south of Moulmein, Burma, in a district where labourers may be described as evanescent. Mr. H. C. Jones notes numerous occurrences of the same ore in the southern Shan States, none being of marked importance. Mr. G. H. Tipper gives a summary, from a recent journey, of "The Geology and Mineral Resources of Eastern Persia." Here the continuous destruction of forests has left no fuel for smelting ore. An interesting account is given of the long underground tunnels, often lined with glazed pipes, which convey water from the gravels for irrigating land lower down the slopes.

AN important study of the origin of banded gneisses and amphibolites occurs in Mr. C. E. Tilley's paper on "The Granite-gneisses of Southern Eyre Peninsula, S. Australia" (Quart. Journ. Geol. Soc. London, vol. 77, p. 75, 1921). The production of the characteristic granular garnets and secondary pyroxenes of amphibolites from primary pyroxene, in a basic igneous rock invaded by granite, is excellently described. We may note again that in discussions of the banding of composite gneiss justice is rarely done to the work of Lévy, Lacroix, and Callaway (in Co. Galway), which dates back at least to 1887.

A memorandum has been issued under the direction of the Indian Government by Dr. Gilbert T. Walker, Director-General of Indian Observatories, on the rainfall of June and July and the probable amount during August and September, 1921. The monsoon appeared over the various parts of the country at about the normal times. The combined rainfall of June and July over the plains of India as a whole is said to have been nearly normal, the deficiency being only 1 in., or 5 per cent., but there was a deficiency of more than 20 per cent. in the United Provinces West, the Punjab east and north, the North-West Frontier Province, Baluchistan, Central India East, and Malabar. The memorandum gives the actual rainfall for the separate months June and July and the departure from the normal for the fifteen chief political divisions and the thirty-three sub-divisions of India. Details are given of the recent data regarding the conditions most likely to have influence on the rains of August and September, 1921; atmospheric pressure over India and the snowfall in mountain regions, as well as the meteorological conditions over the Indian Ocean and in other parts are discussed. From these conditions it is summarised that in North-West India, including the west of the United Provinces, and in the Peninsula, it is likely that the total rainfall of August and September will exceed the average. For North-East India and Burma the conditions are said to be too uncertain to justify a forecast.

About five years ago Prof. Omori made some interesting seismometric measurements of the movements of the great chimney at Saganoseki under the action of wind (Nature, vol. 101, 1918, p. 436). It was found that the top of this chimney, 550 ft. in height, moved through a total range of 7¾ in. when the velocity of the wind was 78 miles an hour. The most interesting result of the measurements was that this movement took place at right angles to the direction of the wind. With the wind the range was always under 1 in. Prof. Omori has recently repeated these experiments on other columns (Bull. Imp. Earthq. Inv. Com., vol. 9, 1921, pp. 77–152). The most lofty is the reinforced concrete tower of the new wireless telegraph station of Haranomachi. This is a hollow, truncated cone, 660 ft. in height, with an external diameter of 57 ft. 9 in. at the base, and of 4 ft. 6 in. at the top, the thickness of the concrete wall being 33 in. and 6 in. respectively. The tower is situated about 200 km. from the principal earthquake zone off the east coast of Japan. The movements were registered by a portable two-component tremor-recorder magnifying from 10 to 30 times. Experiments were made at various times during the construction and after the completion of the tower, the maximum velocity of the wind varying from 20 to 45 miles an hour. It was found that the movements were quite insignificant until the height of the column was 290 ft., and they became distinct only when the height exceeded 500 ft. On completion, the maximum range (or double amplitude) was 6·9 mm., but this was increased to above 10·3 mm. when the iron frame, weighing more than two tons, was attached just below the top. The range of 6·9 mm. was attained in the direction perpendicular to that of the wind. With the wind the maximum range was only 1·9 mm. The period of vibration of the completed column was 2·07 seconds, or 2·12 seconds after the addition of the iron frame. Prof. Omori has also measured the vibrations of a twelve-story brick tower, 172 ft. high, at Tokyo, and of six five-story Buddhist pagodas in various parts of the country.

At the Washington meeting of the American Physical Society in April last Prof. W. F. G. Swann, of the University of Minnesota, directed attention to the influence of the size of the earth on certain changes in terrestrial magnetism. The method of investigation is not exact from the mathematical point of view, but keeps the physical principles involved in the calculation clearly to the fore. In the first place, it is shown that electric currents once started in a copper sphere of the size of the earth would decrease to 37 per cent. of their initial value in 3,000,000 years. In the second, that if such a sphere were originally magnetised and means were then taken to demagnetise it, the same statement would hold for the magnetism. In the third place, if the so-called secular variation of the magnetisation be regarded as due to the rotation about the earth's axis once in 500 years of a uniform magnetisation perpendicular to that axis, the interior conductivity of the earth must be of the order 1/30,000 of that of copper. In the short paper in the issue of the Journal of the Washington Academy of Sciences for June 19, which is the only account of Prof. Swann's conclusions at present available, he points out that corresponding statements may be made with respect to the sun.

With reference to the inquiries made by Mr. Hedger Wallace in a letter entitled "Cornalith" published in Nature of August 25, p. 811, we learn from Messrs. Erinoid, Ltd., of Lightpill Mills, Stroud, Gloucester, that cornalith and galalith are both trade names used by different firms for ivory and horn substitutes, etc. Galalith is the trade name for a casein-formaldehyde material manufactured by the Galalith Co. of Germany; cornalith is presumably the name selected by one particular firm to indicate that imitations of horn are their chief products. In England casein-formaldehyde products are manufactured and sold as raw material under the name of "erinoid," and Messrs. Erinoid, Ltd., claim that their output, nearly 700 tons, during the past year is far in excess of the combined output of both galalith and cornalith factories. The firm exhibited some of their products at the British Scientific Products Exhibitions organised in 1918 under the auspices of the British Science Guild. Vegetable casein has not so far proved as suitable as milk casein for the manufacture of casein-formaldehyde material, but if the Galalith Co. chose to send out an inferior product made from vegetable casein, there is nothing to prevent them from applying to it their own trade-name "galalith."

Messrs. Charles Baker, of 244 High Holborn, W.C.1, have issued recently a new classified list (No. 73) of second-hand scientific instruments and books. The catalogue contains a number of microscopes, of wide range in size and price, and many object-glasses, eye-pieces, and other accessories are also listed. Surveying instruments, particularly theodolites and levels, are well represented. In the section devoted to telescopes, a number of second-hand instruments, both reflectors and refractors, on equatorial and altazimuth mounts, are offered for sale. The list includes a 12-in. reflector and a 12-in. and a $7\frac{1}{4}$-in. refractor, as well as several smaller instruments, object-glasses, eye-pieces, sidereal clocks, and other astronomical apparatus. A series of lantern-slides has been prepared to show the appearance of the bright line spectra between the limits 4000–7000 Å.U. of the commoner elements with normal dispersion. Slides of twenty-seven elements are now available; they should be of considerable service to science teachers. Other features of the catalogue are the sections dealing with cameras and other photographic apparatus and books; the latter contains, among a number of useful text-books and series of scientific periodicals, vols. 28 to 104 of NATURE.

THE Cambridge University Press is publishing the three following books in the autumn:—"New Mathematical Problems," by Major P. A. MacMahon; "Series Spectra," by Dr. Norman R. Campbell; and "Weather Prediction by Numerical Process," by L. F. Richardson. The first-named will be problems based on the permutations and combinations of elementary geometrical shapes; the second will be the first of the supplementary chapters to the author's "Modern Electrical Theory," to which allusion has already been made in NATURE (February 24, p. 842); and the third embodies a scheme of weather prediction, resembling the process employed in the production of the *Nautical Almanack*. At the close of the present year the same publishers will issue "Alternating Currents," in two parts, by C. G. Lamb. It is intended as a guide to the student attending a three-term course on the subject.

Our Astronomical Column.

SEPTEMBER METEORS.—Mr. W. F. Denning writes:—"An excellent series of abundant observations were obtained during the first ten days of the present month by Miss A. Grace Cook and Mr. J. P. M. Prentice at Stowmarket, and several hundred meteor paths were carefully recorded, from which a number of interesting radiant points were derived. These include various systems which have been well observed in past years, and several which apparently represent new showers.

"An active radiant of Orionids from $91\frac{1}{2}^\circ+8\frac{1}{2}^\circ$ was detected on September 1–3, which seems to have escaped previous observation; and among the old streams we observed were the ε Arietids, α Cassiopeids, α–β Perseids, and ι Aurigids.

"Fireballs are usually very frequent in September, and the present month has proved no exception. Several brilliant meteors from Capricornus were observed on September 6, 7, and 14. On September 7 and 8 large meteors were seen from a radiant in Auriga, and on September 10 two brilliant objects were recorded, possibly from a radiant near α Cygni. The times of the two latter were at 9.10 and 11.40 G.M.T., and further observations of these various objects would be valuable. This display of Cygnids is a long-continued one, and was noted as specially active on September 12, 1918, as seen from Bristol."

IONISATION IN STELLAR ATMOSPHERES.—Dr. M. N. Saha has published an important series of papers on this subject in *Phil. Mag.* (vols. 40 and 41) and in Proc. Roy. Soc., 99 A (1921). A useful summary and *critique* of these is given by Mr. E. A. Milne in *Observatory* for September. The work consists of two parts: the study of the conditions of ionisation by the formulæ of physical chemistry, and an endeavour to explain some of the features of solar and stellar spectra in the light of the results. Taking calcium as an example, the percentage of ionisation at different temperatures and pressures is tabulated; the table indicates that at the surface of the sun both normal and ionised atoms of calcium should be plentiful, and, in fact, the *g*, H, K lines are all present. On the other hand, at great heights above the photosphere the pressure is small and ionisation almost complete; accordingly, only the enhanced lines H, K are visible here, *g* not being traced beyond a height of 5000 km. Analogous results are given for several other elements, and hope is held out that the method may eventually afford an indication of the pressure at various heights above the photosphere.

Lessons are also deduced from the progressive appearance and disappearance of certain lines as we pass along the series of stellar spectra from M to O. Dr. Saha determines the temperature of each type, his values ranging from 23,000° Oa, 18,000° Bo, to 5000° Ma, and 4000° Md. These are in fair accord with those of Russell, Wilsing, and Scheiner, but slightly higher on the average.

It will be remembered that several astronomers have suggested that, the supply of gravitational energy being insufficient to maintain their output, the stars are drawing on the energy of the atom. It is likely, therefore, that atomic chemistry will play an important part in the astronomy of the future.

VARIABLE STARS.—Observations of seventy-two well-known variable stars, the R.A.'s of which range from 5h. 21m. to 24h., were made by Prof. Vojtěch Šafařík at Prague between the years 1877 and 1894. They are reproduced in great detail by Prof. Ladislav Pračka in a publication recently received ("Untersuchungen über den Lichtwechsel Älterer Veränderlicher Sterne. Nach den Beobachtungen von Prof. Dr. Vojtěch Šafařík." Vol. 2, pp. iii+180. Prag: Fr. Řivnáč, 1916). The magnitudes of the comparison stars are discussed and compared with all available authorities; the differences of magnitude between them and the variables are given in full, and the nature of the light curve, with the dates of maximum and minimum, is discussed in all cases where the observations suffice for the purpose. There are also many estimates of colour, on Schmidt's numerical scale, which represents white by 0, yellow by 4, orange by 7, red by 9 to 10. The long-period variables in this volume are without exception orange or red; eleven of them have colour-estimates extending beyond 9, and one star, S Cephei, has a colour-estimate of 10.

The following stars have especially long and full series of observations: R Leonis, R Camelopardi, R Draconis, R Aquilæ, U Cygni, V Cygni, S Cephei. Observations of two novæ are included in the volume. Nova Aurigæ fell from 5m. to 11m. in a few weeks early in 1892, then revived to 9·2m. early in 1893, being 9·9m. at the end of that year. Nova T Coronæ appeared to remain steady at 9·2m. during the years 1886 to 1894.